

PATENT

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ATTORNEY DOCKET NO. PROG.003.00USRe

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Reissue application of:

Ralph W. Emerson  
Bradford G. Crandall, Jr.

Patent No.: 5,536,501

Issued: July 16, 1996

Serial No: 08/977,644

Filed: November 24, 1997

For: **USE OF AROMATIC ALDEHYDES AS  
INSECTICIDES AND FOR KILLING  
ARACHNIDS**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Transmitted herewith is:

- ☒ [X] An Information Disclosure Statement.
- ☒ [X] A PTO-1449.
- ☒ [X] Copies of references listed on the PTO-1449 form.
- ☒ [X] Abstract of foreign language references
- ☐ [ ] English translation of foreign language references.
- ☐ [ ] Copy of foreign examination report.

**CERTIFICATE OF FIRST CLASS MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope with sufficient postage addressed to the Assistant Commissioner for Patents, Washington, DC 20231 on 2/18/98

Signature: Gloria Otsi

Printed Name: Gloria Otsi

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- ☐ English translation of foreign examination report.
- ☒ Return postcard (postage prepaid).
- ☐ Also transmitted is: \_\_\_\_\_.
1. ☒ This Information Disclosure Statement is filed before the later of:
- ☒ three months from the filing date of this reissue application;
  - ☐ three months from the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or
  - ☐ the mailing date of a first office action on the merits.
- ☒ In accordance with 37 C.F.R. § 1.97(b), no fee is required.
2. ☐ This Information Disclosure Statement is filed after the events noted in paragraph 2, but before either:
- ☐ (1) a final action under 37 C.F.R. § 1.113; or
  - ☐ (2) a Notice of Allowance under 37 C.F.R. § 1.311.
- ☐ In accordance with 37 C.F.R. § 1.97(c) also enclosed is:
- ☐ a fee under 37 C.F.R. § 1.17(p) in the amount of \_\_\_\_\_; or
  - ☐ a certification as stated below.
3. ☐ This Information Disclosure statement is filed before the payment of the issue fee, but after either:
- ☐ (1) a final action under 37 C.F.R. § 1.113; or
  - ☐ (2) a Notice of Allowance under 37 C.F.R. § 1.311.
- ☐ In accordance with 37 C.F.R. § 1.97(d) also enclosed is:

- ☐ (1) A certification, as stated below;
- ☐ (2) A Petition requesting consideration of the Information Disclosure Statement; and
- ☐ (3) The petition fee set forth in 37 C.F.R. § 1.17(i)(1) in the amount of \_\_\_\_

**Certification**

The undersigned also states:

- ☐ Each item of information contained in the Information Disclosure Statement cited herein was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing date of this Information Disclosure Statement; or
- ☐ No item of information contained in the Information Disclosure Statement submitted herewith was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing date of this Information Disclosure Statement.

The fees indicated above are:

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- ☒ No fee is required.
- ☒ The Commissioner is hereby authorized to charge any underpayment of the following fees associated with this communication, including any necessary fees for extension of time, or credit any overpayment to Deposit Account No. 18-0020.

[X] Any filing fees under 37 C.F.R. § 1.16 for the presentation of extra claims.

[X] Any patent application processing fees under 37 C.F.R. § 1.17.

[X] A **duplicate** copy of this sheet is attached for accounting purposes.

Respectfully submitted,

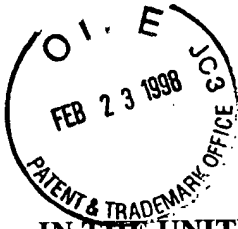
Dated: February 17, 1998

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Ralph Emerson  
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)  
) Examiner: Not Yet Assigned  
)  
) Art Unit: Not Yet Assigned  
)

INFORMATION DISCLOSURE  
STATEMENT

For: **USE OF AROMATIC ALDEHYDES AS  
INSECTICIDES AND FOR KILLING  
ARACHNIDS**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This Information Disclosure Statement is hereby submitted in accordance with 37 CFR 1.98 and pursuant to Applicant's continuing duty under 37 CFR 1.56 to bring any information which may be material to patentability of this application to the Examiner's attention.

CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that this paper or fee is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231 on 2/18/98.

Signature: Gloria Otsi

Printed Name: Gloria Otsi

Applicant makes no representation that a complete search has been conducted by the Applicant, or that there is not possibly more relevant art. Applicant also makes no representation that the information submitted herewith is in fact material.

Copies of documents A1, A2, A3, A4, A5, A6, A7, A8, B3, B9, C2, and C14 which had previously been cited by the Examiner or submitted to the United States Patent and Trademark Office in parent Application Serial No. 08/366,974, now issued as Patent No 5,536,501, are not now being submitted.

[X] At least one of the enclosed publications is not in the English language. English translations of documents B2, B7, B8 and B12 are enclosed. English language abstracts of references B4, B5, B6, B10, B13, and B14 obtained from a patent database follow.

[X] The following is a Derwent Abstract (WP1 Acc No: 91-144786/20) for the patent JP 3081202 (B4) :

An acaricide for ticks contains, as an active ingredient, a cinnamic acid deriv. of formula (1). R1 is H or methyl; R2 is H or 1-8C alkyl; R is aldehyde, hydroxymethyl, 1-4C alkoxy carbonyl or 1-4C alkylcarboxymethyl. (I) is e.g. cinnamic aldehyde, cinnamic acetate, cinnamic alcohol, alpha-amylicinnamic aldehyde, ethyl cinnamate, alpha-hexylcinnamic aldehyde, p-methylmethyl cinnamate, m,alpha-dimethylcinnamic alcohol, alpha-ethylcinnamic butyrate, alpha-methylbutyl cinnamate, p-methylcinnamic aldehyde, alpha-methylcinnamic acetate, and m-methylcinnamic propionate.

USE/ADVANTAGE-Acaricide for killing house ticks.

[X] The following is a Derwent Abstract (WP1 Acc No: 92-223400/27) for the Patent JP 4149103 A (B5):

Compsn. Contains, as (an) active component(s), at least one of the following

cpd. ethyl cinnamate, methyl cinnamate, cinnamic alcohol, cinnamyl acetate, and/or alpha-n-hexylcinnamyl aldehyde.

ADVANTAGE- Compsn. Shows a good acaricidal activity against indoor dust mites, with very low toxicity to humans and domestic animals.

In an example a sheet of filter paper was impregnated with 0.5ml of acetone soln. of each of the five active cpd. that can compose the acaricidal compsn. At a fixed conc. of 0.2 or 0.5 g/m<sup>2</sup>. After removing the solvent, 50 adult mites of *Tyrophagus putrescentiae* were placed on the filter paper. The filter paper was then folded twice and its three sides were fixed with a clip. Then the filter paper was placed under a condition of 25 deg. C and 80% R.H. In 24 hrs., the mice were observed to see survival or death. All the five active cpd. showed 100% control of mites at 0.5 g/m<sup>2</sup>; and the cpd. showed 68.8-100% acaricidal effects at 0.2 g/m<sup>2</sup>.

[X] The following is a Derwent Abstract (WP1 Acc No: 85-02783/05) for the Patent JP 59222402 A (B6):

Examples of volatile insecticides are naphthalene, camphor, p-dichlorobenzene, cinnamic aldehyde, anisaldehyde, thymol, N,N-dialkyl-toluamide, dialkyl phthalate, allylcaproether, p-cresol methylether, dialkyl fumarate, dialkyl succinate, pyrethrine, 2,3,4,5-bis-(delta2butylene)tetrahydrofurfural, 2-hydroxyethyloctylsulphide, etc. Alcohols used are ethyleneglycol, propyleneglycol, trimethyleneglycol, 1,4-butanediol, 1,3-butylenediol, 2,3-butylenediol, 1,5-pentanediol, 1,6-hexanediol, 1,7-heptanediol, 1,8-octanediol, 1,9-nonanediol, 1,10-decanediol, pinacol, hydrobenzoin, benzpinacol, and like glycols; glycerine and like trihydric alcohol; diethyleneglycol, dipropyleneglycol and like dialkeneglycols; triethyleneglycol, tripropyleneglycol and like trialkeneglycol; polyethyleneglycol, polypropyleneglycol and like polyether; PV A (molecular wt. 200-4,000) and like polyhydric alcohol; furfuryl alcohol and like heterocyclic alcohol; and 4-8 C fatty saturated alcohol. The volatile insecticide to the alcohol ratio is 1:99-99:1 (by weight), pref. 95:5 -40:60.

ADVANTAGE- Long lasting effect is obtd. by using the volatile insecticide in combination with alcohol.

[X] The following is the Derwent Abstract (Wp1 Acc No: 94-252673/31) for the Patent JP 6183925 A (B10):

Insecticide for plants comprises saponin-containing substance as major component. The saponin-containing substance is pref. Quilaia saponin of formula (II) extracted from the plant of Quilaia saponaria Mol. where R is a gp. of formula (a) or H. The insecticides are in form of spray soln., or tablets contg. 5-100 ppm of saponin.

USE/ADVANTAGE- Saponin-containing insecticides are safe to living animals including humans with no air pollution.

In an example, a spray-soln. (300ml) contg. 30ppm of saponin was sprayed over 10 persimmon trees once a week. No insects were seen thereafter.

[X] The following is Derwent Abstract (WPI Acc No: 93-191413/24) for the Patent JP 5117125 (B13):

Lawn culturing preservative soln. for dispersion contains lignin degradation prods., partic. phenolic amterials of cinnamaldehyde, cinnamic acid or cinnamyl alcohol.

Lignin degradation prods. (e.g. effeic acid, vannilic acid, gallic acid, p-hydroxybenzioc acid, vannilin, guaiacol, catechol, cinnamic alcohol and tannic acid) are pref. dispersed at ratios of 0.001-0.05 pts wt. in 100 pts. wt. of soil.

USE/ADVANTAGE- Prevention of pathogens to lawns (e.g. Fusarium roseum, Rhizoctonia solani and Pythium aphanidermatum) without environmental pollution.

[X] The following is a Derwent Abstract (WPI Acc No: 92-262127/32) for the Patent JP 4176460 A (B14):

Paper-cloth processed atricle is prepd. by applying adlay tea, saponin, and/or indigo to paper, leather paper, plastic chroma film paper, flate plates composed of nonwoven fabric, cloth paper for nappies processed from the above materials or leather-mixed paper; drying and spraying vanillin, cinnamaldehyde and/or benzaldehyde to obtain an antibacterial processed cloth, paper or film.



Opt. a mixt. of a soln. of chitin or chitosan dissolved in an organic acid with an adhesive is applied to an indigo-dyed cloth, paper or film and dried. Then a soln. of cocoon pieces or powder or the waste soln. contg. sericin, serine, glutamic acid and aspartic acid is obtd. from winding raw silk is sprayed or scattered to the cloth, paper or film to form a coating. USE/ADVANTAGE- For preventing bed sore on the buttocks which often occurs in bedridden seniors and infants.

The subject application is believed patentable over any of the above references.

Respectfully submitted,

Dated: February 17, 1958

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